

Notice of Allowability

Application No.

10/785,080

Examiner

Deborah Yee

Applicant(s)

IKEDA ET AL.

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE dated 7-20-07 and applicants' remarks and amendment dated 6-27-07.
2. ☒ The allowed claim(s) is/are 1 to 7.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Deborah Yee
Primary Examiner
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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 20, 2007 has been entered.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Corwin Umbach on July 31, 2007 and August 8, 2007

The application has been amended as follows:

Claims 8 to 14, drawn to the non-elected invention, have been cancelled.

In claim 7, "C: 0.1% to 0.6%" has been changed to ---C: 0.41% to 0.6%---.

Allowable Subject Matter

3. Claims 1 to 6 are allowed.

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4. Pursuant to M.P.E.P 821.04, Claim 7, the withdrawn method of making hot forged part, which includes all the limitation of product Claim 1 has been rejoined with claims 1 to 6, examined and allowed.

5. The following is an examiner's statement of reasons for allowance: The art of record does not teach or fairly suggest the high strength forged part as recited by claim 1 to 7 for the reasons set forth in applicants' remarks dated June 27, 2007.

6. As stated by applicants, Claim 1 recites a forged part containing a C range of 0.41% to 0.60%" whereas JP'641 and JP'648 teach a hot rolled steel sheet containing a C content range of 0.05 to 0.25%. The present invention teaches a higher carbon content than prior art in order to increase the amount of retained austenite and to increase the concentration of C into retained austenite, thus affording an extremely high elongation. In contrast, JP'641 and JP'648 teach a hot rolled steel sheet containing C content at no more than 0.25% in order to prevent degradation of weldability. Hence claims would patentably distinguish over prior art since carbon content is vastly different. Furthermore, one of ordinary skill in the art would not have found it obvious to increase the carbon concentration in JP'641 and JP'658 steel since JP'641 and JP'658 teach against a higher carbon content of greater than 0.25% because it would result in degradation of weldability.

7. Moreover, since JP'651 and JP'648 teach lower carbon content, than retained austenite content is lower and hence would not meet equation (1) recited by claim 1. Note present invention lower carbon limit is 0.41% and when calculated into

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Equation (1), the minimum retained austenite requirement is $50 \times [C] = 50 \times [0.41] = 20.5\%$. JP'658 on page 10 and JP'658 on page 9 disclose examples with retained austenite below 20% and therefore would not meet equation (1) recited by claim 1.

8. JP'651 and JP'648 also do not teach the space factor of a coarse portion of $(1.5 \times d)$ or more in an average grain diameter, d , contained in the second phase structure being 15% or less as recited by claim 1, and such property would not be expected by prior art since prior art is made by a different process from the present invention steel product.

9. Note the method for producing the high strength forged part, as recited by claim 7, comprises the steps of holding steel at a temperature in the range of (Ae1 point-30C) to Ae3 point for 10 seconds or more, allowing the steel to be forged at this temperature, thereafter cooling the steel to a temperature of 325 to 475C at an average cooling rate of 3C/s or more and austempering by holding the steel at that temperature range for 60 to 3600 seconds. Prior art teaches hot rolling and cooling but does not teach austempering.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00am-2: 30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah Yee/
Primary Examiner
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